



**MUNICIPAL SEPARATE STORM
SEWER SYSTEM (MS4)
COMPLIANCE INSPECTION**

**MANOR TOWNSHIP
LANCASTER COUNTY, PENNSYLVANIA**

**REPORT DATE:
November 17, 2010**

**EVALUATION CONDUCTED:
August 30–31, 2010**

Conducted for:
**U.S. Environmental Protection Agency
Office of Compliance and Enforcement
1200 Pennsylvania Avenue, NW
Washington, DC 20460**

and

**U.S. Environmental Protection Agency, Region 3
Water Protection Division
Office of NPDES Enforcement (3WP42)
1650 Arch Street
Philadelphia, PA 19103**

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Section 1.0 Introduction

On August 30–31, 2010, the U.S. Environmental Protection Agency (EPA), Region 3, and EPA’s contractor, PG Environmental, LLC (hereafter, collectively, the EPA Inspection Team) conducted an inspection of Manor Township (hereafter, Township or Permittee) Municipal Separate Storm Sewer System (MS4) Program. Discharges from the Township’s MS4 are regulated under the *National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems*, no. PAG-13 (hereafter, the Permit), issued in December 2002. The Permit expired March 9, 2008, but DEP administratively extended it until December 9, 2011. The Township was first permitted under NPDES permit no. PAG-13 in 2003, and it has been developing its MS4 Program since that time.

The Township encompasses approximately 48.6 square miles, of which, 38.5 square miles is land and 10.1 square miles is water. The Township is in Lancaster County, Pennsylvania, approximately 80 miles west of Philadelphia. The total population of the Township was estimated to be 16,498 people at the time of the 2000 U.S. Census.

The Permit authorizes the Township to discharge stormwater runoff and certain non-stormwater discharges from the Township’s small MS4 to surface waters of the Commonwealth of Pennsylvania. The Township’s 2009–2010 Annual Report states that the Township is in the Conestoga River and Little Conestoga Creek watersheds. Part A of the Permit, “Stormwater Management Program,” requires the Township, within the permit term, to implement a stormwater management program approved by the Commonwealth of Pennsylvania, Department of Environmental Protection (DEP). DEP developed the *MS4 Stormwater Management Program Protocol* (hereafter, the Protocol), which describes an approved stormwater management program that includes best management practices (BMPs), a compliance schedule, and measureable goals to comply with the six Minimum Control Measures (MCMs) specified in Part A of the Permit. To the extent that a Permit applicant adopts all or a portion of the Protocol, it becomes a part of the applicant’s Authorization to Discharge and the requirements associated with its coverage under the Permit.

The Township’s 2009–2010 Annual Report states that the Township has implemented the Protocol in its entirety, indicating that the Township has adopted the entire Protocol as its stormwater management program.

The inspection focused on four of the MCMs described in Part A.2 of the Permit as follows:

MCM 3	Illicit Discharge Detection and Elimination
MCM 4	Construction Site Runoff Control
MCM 5	Post-Construction Stormwater Management in New Development and Redevelopment

MCM 6 Pollution Prevention and Good Housekeeping for Municipal Operations
and Maintenance

The purpose of the inspection was to obtain information that will assist EPA in assessing the Township's compliance with the requirements of the Permit and associated Protocol, as well as the implementation status of the Township's current MS4 Program. The inspection schedule is presented in Appendix A.

The EPA Inspection Team obtained its information through a series of interviews with representatives from the Public Works Department and from the Township's Consultant, along with a series of site visits, record reviews, and field verification activities. The primary representatives involved in the inspection were the following:

Manor Township MS4 Program Compliance Inspection: August 30—31, 2010	
Township Administration	Barry Smith, Township Manager
Public Works	Mark Harris, Public Works Director
RETTEW Associates, Inc.	James Caldwell, Group Manager, Township Engineer
EPA Representatives	Ms. Allison Graham, EPA Region 3 Ms. Kaitlyn Bendik, EPA Region 3 Ms. Dee Nguyen, EPA Region 3
EPA Contractors	Scott Coulson, PG Environmental, LLC Bobby Jacobsen, PG Environmental, LLC

Dry weather conditions were experienced throughout the inspection activities on August 30–31, 2010. Weather history reports¹ indicate that 0.02 inch of precipitation had fallen in the Manor Township area during the week that preceded the inspection.

¹ Weather history reports for the Manor Township area (Lancaster, Pennsylvania), were obtained from the Weather Underground website (<http://www.wunderground.com>).

Section 2.0 Information Obtained Regarding Compliance with the Permit and Protocol

During the evaluation, the EPA Inspection Team obtained documentation and other supporting evidence regarding compliance with the Permit and Protocol. Pertinent information obtained during the evaluation is presented in this inspection report as inspection observations. The presentation of inspection observations in this report does not constitute a formal compliance determination or notice of violation. All referenced documentation used as supporting evidence is provided in Appendix B, and photo documentation is provided in Appendix C.

Section 2.1 Illicit Discharge Detection and Elimination

Part A.2 of the Permit requires the Township to implement and enforce a program to detect and eliminate illicit discharges into the MS4.

The following are the summary components of the Illicit Discharge Detection and Elimination MCM (IDD&E MCM) from the Protocol:

- Develop map of municipal separate storm sewer system outfalls and receiving surface waterbodies;
- Prohibit illicit discharges via DEP-approved ordinance;
- Implement a IDD&E Program that includes 1) field screening program and procedures and 2) elimination of illicit discharges;
- Conduct public awareness and reporting program (see also the Public Education and Outreach portion of this manual).

2.1.1. The Township had not developed a complete storm sewer system map. The Protocol for the IDD&E MCM requires the Township to “develop [a] map of [the] municipal separate storm sewer system outfalls and receiving surface waterbodies....show the location of all outfalls and the names and locations of all surface waters that receive discharges from those outfalls.... include all outfalls that are physically connected to the system, even those that are outside of the Urbanized Area boundary.” Part B.4 of the Permit further defines the term *MS4* to include roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains.

The EPA Inspection Team formally requested “onsite demonstration of storm drain system mapping tools” with an emphasis on layers/mapping that informs the MS4 program activities (e.g., storm drain system, structural controls, outfalls, receiving waters, etc.) (see Appendix B, Exhibit 1, Item No. 20). In response, the Township provided hard-copy map sheets (hereafter, Township Storm Sewer System Map). The Township Public Works Director explained that the Township Storm Sewer System Map was developed in May 2010 on the basis of a visual field survey of outfalls in the Township; however, the Township Engineer indicated that receiving surface waterbodies/stream

corridors had not been visually surveyed or walked to identify outfalls. The Township Manager explained that the outfall mapping was a work in progress, and the 33 outfalls identified on the Township Storm Sewer System Map were mapped during the May 2010 visual field survey.

The EPA Inspection Team identified two outfalls within or near Stonemill Greenway (a Manor Township park) that are not identified on the Township Storm Sewer System Map (see Appendix B, Exhibit 2). One outfall which discharges to Little Conestoga Creek is located northeast of the intersection of Stone Mill Road and Schoolhouse Road. The outfall drainage area includes these roadways and the associated drainage systems and is a component of the Township MS4 (see Appendix C, Photograph 1). A second outfall to Little Conestoga Creek, located southeast of the first and adjacent to a bridge over the creek, provides drainage for an area that includes Schoolhouse Road and the associated drainage system, and therefore it, too, is a component of the Township MS4 (see Appendix C, Photographs 2 and 3). According to the Township Storm Sewer System Map (see Appendix B, Exhibit 2), both of these outfalls are within the urbanized area of the township.

2.1.2. The Township had not conducted field screening prior to May 2010. The Protocol for the IDD&E MCM requires Manor Township to “establish priority areas for 25% of system” and “screen priority areas two times per year beginning in Permit Year 2.” As evidenced below, the Township had not conducted field screening prior to May 2010.

The EPA Inspection Team formally requested “records of Priority List outfall inspections/dry weather field screening and monitoring (March 10, 2009, to current)” (see Appendix B, Exhibit 1, Item No. 23). The only field screening records provided by the Township were for screening conducted in Permit Year 8 (reporting period March 10, 2010, through March 9, 2011) during May 2010 (see Appendix B, Exhibit 3). The Township Manager stated that the Township had not conducted prioritization or field screening prior to the May 2010 field screening and outfall mapping effort.

Further explanation is provided in the Manor Township response letter (*RE: Administrative Order and Information Request, Docket No. CWA-03-2010-0166DN*), dated June 8, 2010 (see Appendix B, Exhibit 4). The Township response letter, MCM#3 – Illicit Discharge Detection and Elimination, states

The Township has elected to complete screening of all outfalls two times annually providing assurances for compliance....All 33 outfalls were visually inspected, 18 on May 21, 2010 and 15 on May 25, 2010. All 33 outfalls found to be clear of any illicit discharges.

As previously described, the EPA Inspection Team identified two outfalls within or near Stonemill Greenway that are not identified on the Township Storm Sewer System Map and therefore had not been inspected as part of the 33 outfalls included in the Township’s May 2010 field screening. (see Section 2.1.1 for additional details.)

2.1.3. The Township had not conducted field screening as specified in the Protocol.

The Protocol for the IDD&E MCM states: “The Checklist provided in this Protocol (see the References and Resources CD-ROM and Appendix 1) must be used when conducting field screening.”

The EPA Inspection Team reviewed the field screening records provided by the Township and determined that the Township had not used the checklist provided in the Protocol, and had not specifically targeted or documented dry weather conditions for screening (see Appendix B, Exhibit 3).

The Township did not maintain a written description of its field screening program or illicit discharge detection and elimination procedures. The EPA Inspection Team observed the Township Public Works Director as he conducted field screening of outfall no. S5-P1. The Township Public Works Director did not use the checklist provided in the Protocol, did not take notes, and did not give any indication that he would look for visual or olfactory illicit connection/illicit discharge (IC/ID) indicators. Furthermore, the Township Public Works Director explained that the Township did not have a hand-held pH meter to conduct in-field analysis of pH. The Township Public Works Director and Township Engineer did, however, describe how they would coordinate in the event of an identified dry weather flow, including the use of consultant staff to collect samples.

2.1.4. The Township had not developed a centralized tracking mechanism for public reporting of IC/IDs.

The EPA Inspection Team formally requested an “inventory – reported incidents of illicit discharges/connections/spills and resolution (March 10, 2009 to current)” (see Appendix B, Exhibit 1, Item No. 24). The Township provided one example, which had been identified through public reporting (see Appendix B, Exhibit 5), but did not maintain a centralized inventory of reported incidents of IC/IDs. The Township Manager explained that complaint calls are typically received by the administrative staff at the Township office. However, the Township does not have dedicated staff or a dedicated phone number for receiving complaints. The Township Manager further explained that he and the Township Public Works Director are the staff members tasked with responding to public complaints, but records are not created if the complaints are resolved through discussion. Moreover, the Township Manager indicated that the Township does not have a system for tracking complaints through resolution. Exhibit 5, for example, describes an IC/ID incident where final resolution was not fully documented in the records initially provided to the EPA Inspection Team. The EPA Contract Inspector reviewed additional records after the inspection and found that the Township Public Works Director’s daily planner entries indicated that the issue had been resolved on January 19, 2010, by eliminating the illicit connection.

In summary, the Township had not conducted a thorough data collection effort with regard to the occurrence of IC/IDs, including the establishment of a dedicated public reporting mechanism and centralized inventory of complaints and their resolution. Therefore, the Township had not developed a full understanding of the types of IC/IDs experienced within the Township and their impact on the MS4.

Section 2.2 Construction Site Runoff Control

Part A.2 of the Permit requires the Township to implement and enforce a program to reduce pollution in any stormwater runoff to the MS4 from construction activities that result in a land disturbance of greater than or equal to one acre, including projects of less than one acre that are part of a larger common plan of development or sale that equals one acre or more.

The following are the summary components of the Construction Site Runoff Control MCM (Construction MCM) from the Protocol:

- Enact, implement and enforce a stormwater control ordinance using DEP model language;
- Require review and approval of Erosion and Sediment Control Plans: (1) for any earth disturbance one acre or more causing runoff to the MS4 (or any earth disturbance five acres or more regardless of the planned runoff), and (2) as a prerequisite for the formal approval of land development and redevelopment plans or the issuance of building permits; and
- Distribute educational materials to land developers with the applications for building permits and other land development/redevelopment permits or approvals (see Public Education and Outreach Minimum Control Measure).

On March 9, 2010, the Township entered into a Memorandum of Understanding (MOU) with the Lancaster County Conservation District (hereafter, CCD or District) that delineates the responsibilities of the CCD and the Township, including those pertaining to erosion and sediment (E&S) pollution control. Through the MOU, the Township relies on the CCD to satisfy certain requirements of the Construction MCM outlined in the Protocol. The relationship between the Township and CCD is further discussed in Sections 2.2.3 and 2.2.4.

2.2.1. Construction site visit. On August 31, 2010, the EPA Inspection Team conducted one site visit at a publicly owned construction site within the jurisdictional boundaries of the Township. The purpose of the site visit was to assess the Township's oversight activities for construction sites. Summary observations are presented below. All referenced photographs are contained in Appendix C, Photograph Log.

Public Site: Central Manor Elementary School – 3717 Blue Rock Road, Manor Township, PA

This Penn Manor School District project consists of a school expansion and the installation of a geothermal heating system at the Central Manor Elementary School (see Appendix C, Photograph 4). A review of the Township Storm Sewer System Map identified the site as located outside Manor Township's MS4 permitted area. The Township Manager indicated that the Township's goal was to apply its MS4 Program consistently throughout the Township without differentiating between urbanized and non-urbanized areas.

At the time of the inspection, the site had been graded and vertical construction was under way. An existing post-construction detention basin BMP is located near the southern corner of the site. According to a topographic map included in ArcGIS Explorer (a map-viewing computer program), a tributary to the West Branch of Little Conestoga Creek lies about 750 feet south of the construction site, though the waterbody was not observed during the inspection. The EPA Inspection Team observed the following with regard to construction stormwater controls at the facility:

- BMPs for inlet protection had not been implemented for storm drain inlets on the northeastern side of the school building. Specifically, concrete mixing materials, concrete waste materials, and unstabilized sediment were observed on the ground surface up-gradient and surrounding several storm drain inlets (see Appendix C, Photographs 5 through 9).
- The storm drain inlets described above are connected to the existing detention basin near the southern corner of the site (see Appendix C, Photograph 4). Accumulated sediment and evidence of concrete staining were observed in and around the inlet pipe to the detention basin as well as within the basin itself (see Appendix C, Photographs 10, 11 and 12). The outfall from the detention basin was not viewed during the site inspection, and Township staff and representatives of the elementary school were unsure of its discharge location.
- The detention basin post-construction BMP observed at the Central Manor Elementary School was not identified on the Township Storm Sewer System Map. Township staff indicated that they are not yet mapping post-construction BMPs.

2.2.2. The Township does not routinely maintain an inventory of current active construction sites that are potential pollutant sources to the MS4. The EPA Inspection Team formally requested an “inventory of current active construction sites with location (differentiating municipally sponsored from private projects)” (see Appendix B, Exhibit 1, Item No. 10). In response, the Township Manager provided a list of construction sites that had been generated from active improvement guarantees (see Appendix B, Exhibit 6). The list of sites had been developed in preparation for the EPA inspection; no list of active construction sites is maintained on a routine basis.

2.2.3. Observations related to coordination between the Township and the local CCD regarding construction site inspection and complaints. The MOU specifies that the Township will “forward complaints to the District, or advise others to forward complaints related to water pollution that is resulting from accelerated soil erosion, animal waste, or the land application of biosolids as deemed appropriate by the municipality.” The MOU further specifies that the District will “perform on-site investigations in response to complaints regarding accelerated soil erosion and sediment pollution for any and all earth disturbance activities including agricultural plowing and tilling and provide the municipality with copies of the correspondence” (see Appendix B, Exhibit 7).

The EPA Inspection Team formally requested “Records of follow up action to citizen/employee complaints regarding construction site issues (March 10, 2009 to current)” (see Appendix B, Exhibit 1, Item No. 12), but the Township did not provide the

requested records. Township staff explained that the Township does not maintain records of citizen complaints or subsequent referrals to the District by the Township for construction site issues/complaints identified through public (third-party) complaints. Additionally, the Township does not track resulting actions (e.g., enforcement) taken by the District to ensure that the District has adequately addressed all complaints.

2.2.4. Relationship with the CCD and enforcement of E&S Control Plan requirements. Under the provisions of the MOU, the CCD is required to perform certain tasks, including E&S control plan reviews and construction site inspections. The MOU clearly stipulates that the Township will require evidence that E&S control plans have been reviewed by the CCD and that the applicable projects have been issued NPDES permits as a condition of Township approvals. The MOU, however, does not specify which entity (the Township or CCD) is responsible for enforcing the requirements of approved E&S control plans, the Township's Stormwater Ordinance, and *Pennsylvania Code* Title 25, "Environmental Protection," Chapter 102, "Erosion and Sediment Control."

Section 2.3 Post-Construction Stormwater Management in New Development and Redevelopment

Part A.2 of the Permit requires the Township to implement and enforce a program to reduce pollution in any stormwater runoff to the MS4 from new development and redevelopment projects that result in a land disturbance of greater than or equal to one acre, including projects of less than one acre that are part of a larger common plan of development or sale that equals one acre or more.

The following are the summary components of the Post-Construction Stormwater Management MCM (Post-Construction MCM) from the Protocol:

- Enact, implement and enforce a stormwater control ordinance using DEP model language;
- Coordinate the review and approval of post-construction BMPs simultaneously with the review and approval for construction Erosion and Sediment Control Plans as described in the Construction Minimum Control Measure; and
- Ensure long-term operation and maintenance of the BMPs.

2.3.1. Post-construction site visits. On August 31, 2010, the EPA Inspection Team conducted post-construction site visits at four privately owned facilities and five publicly owned facilities within the jurisdictional boundaries of the Township. Summary observations pertaining to select sites are presented below. All referenced photographs are contained in Appendix C, Photograph Log.

Private Site: Hampton Chase Development – Banyan Circle Drive, Manor Township, PA

This completed development project is located down-gradient of Greider Park, a Manor Township park. Based on a review of the Township Storm Sewer System Map, the site is

located within Manor Township's MS4 permitted area. The EPA Inspection Team observed the following regarding post-construction controls:

- A flood control/detention basin was installed at the site (see Appendix C, Photograph 13). The Township Public Works Director indicated that the detention basin receives drainage from both the Hampton Chase development and Greider Park.
- The detention basin was overgrown with vegetation (see Appendix C, Photographs 13 and 14).
- Woody vegetation was present along the dam embankment of the detention basin (see Appendix C, Photograph 14), which could compromise the structural integrity of the embankment. Furthermore, floatable debris had accumulated on the grate of the outlet structure (see Appendix C, Photograph 15), indicating that the water level had risen in close proximity to the woody vegetation.
- The detention basin post-construction BMP was not identified on the Township Storm Sewer System Map (see Appendix B, Exhibit 2). Township staff indicated that they are not yet mapping post-construction BMPs.

Private Site: Moove In Self Storage – 103 Stone Mill Road, Manor Township, PA

This completed development project consists of mini-warehouse and self-storage units. Based on a review of the Township Storm Sewer System Map, the site is located within Manor Township's MS4 permitted area. The EPA Inspection Team observed the following regarding post-construction controls:

- A flood control/detention basin was installed at the site (see Appendix C, Photograph 16 and 17). The detention basin appeared to have been recently mowed (see Appendix C, Photograph 17); however, erosion was present in an area leading from Stone Mill Road (see Appendix C, Photograph 18).
- A portion of the outlet structure trash rack was missing, and blockage was observed in the outlet pipe (see Appendix C, Photograph 19).
- The outfall from the detention basin, denoted as outfall no. S5-P1, was identified on the Township Storm Sewer System Map; however, the detention basin post-construction BMP was not identified (see Appendix B, Exhibit 2). Township staff indicated that they are not yet mapping post-construction BMPs.

Public Site: Municipal Office Building – 950 West Fairway Drive, Manor Township, PA

The Township's Municipal Office Building, built in 1993, primarily houses offices for administrative personnel. Based on a review of the Township Storm Sewer System Map, the site is located outside Manor Township's MS4 permitted area. The facility consists of one large building with three main wings, and it includes a three-bay garage (on the bottom level) that is used for police vehicle storage. Township staff indicated that vehicle maintenance, fueling, and washing are all conducted at off-site locations. The EPA Inspection Team observed the following with regard to post-construction stormwater controls at the facility:

- A detention basin was installed in the northwest corner of the Municipal Office Building Facility. Stormwater from the facility drains to the detention basin,

- which then flows to the northwest through an underground outlet pipe to an overland flow outfall structure and ultimately discharges to an unnamed tributary to Little Conestoga Creek. The detention basin appeared to have been recently mowed (see Appendix C, Photographs 20 and 21); however, the outlet pipe from the detention pond and the outfall to the creek were not easily accessible because of overgrown vegetation (see Appendix C, Photographs 22 through 24).
- The detention basin post-construction BMP was not identified on the Township Storm Sewer System Map. As explained by Township staff, the Township was aware of the existence of the BMP, but the BMP was not mapped because it is not within the urbanized area of the Township. The Township staff further explained that they are not yet mapping post-construction BMPs.

2.3.2. The Township does not routinely maintain an inventory of post-construction BMPs implemented in the Township's jurisdiction as a component of the MS4. The EPA Inspection Team formally requested an "inventory of post-construction BMPs with location (differentiating municipally owned and operated from private)" (see Appendix B, Exhibit 1, Item No. 17), but the Township did not provide the requested records. The Township Engineer and Township Manager indicated that an inventory of post-construction BMPs is not maintained, but plan files can be accessed. In addition, the Township's 2009–2010 Annual Report, section 16B, does not include a list of post-construction BMPs. The Township Manager explained that the Township could develop an inventory in the same manner used for its recent storm sewer system mapping (i.e., field survey of the township and subsequent reference of the plan files).

Furthermore, the EPA Inspection Team conducted nine site visits where various post-construction BMPs had been constructed within the jurisdiction of the Township. The team observed that the locations of post-construction BMPs within the jurisdictional boundaries of the Township are not documented in written format, but rather are based on the institutional knowledge of the Township Engineer and the Public Works Director.

2.3.3. The Township had not conducted inspections of post-construction BMPs or developed and implemented a system for monitoring post-construction BMPs to ensure proper operation and maintenance. The Protocol for the Post-Construction MCM states that "some of the structural BMPs will require maintenance over time to be effective. You [the Township] must have a system to monitor these BMPs."

During the site visits, the EPA Inspection Team identified multiple examples of maintenance issues with post-construction BMPs that had not been inventoried or mapped (see Sections 2.3.1 and 2.4.1 for additional details).

The EPA Inspection Team formally requested "records of post-construction BMP and catch basin inspection and maintenance (March 10, 2009 to current)" (see Appendix B, Exhibit 1, Item No. 29), but the Township did not provide the specified records. The Township Engineer and Township Manager indicated that the Township had not begun conducting inspections of post-construction BMPs to ensure they are meeting design criteria and are properly maintained and functional. These statements contrast with the

information provided in the Manor Township response letter (*RE: Administrative Order and Information Request, Docket No. CWA-03-2010-0166DN*), dated June 8, 2010 (see Appendix B, Exhibit 4). The Township response letter, MCM#5 – Post-Construction Stormwater Management in New Development and Redevelopment, states that “field inspections by the Township, the Township Engineer and the Lancaster County Conservation District ensure compliance with the approved plans, associated ordinances and the Operation and Maintenance Plan.” The Township response letter was signed and certified as specified in Title 40 of the *Code of Federal Regulations* (CFR), Part 122, Subpart B, Section 122.22.

In March 2008, the Township began requiring new development property owners to sign and record a maintenance agreement (referred to as a declaration of covenants, conditions, and restrictions) pertaining to post-construction BMPs that are privately owned. However, the Township Manager indicated that the Township does not have a mechanism to track post-construction BMP maintenance conducted by property owners or the Township. The EPA Inspection Team conducted nine site visits at post-construction BMP locations within the jurisdictional boundaries of the Township. During the site visits, the Team identified multiple examples of private post-construction BMPs that had not been maintained (see Section 2.3.1, post-construction site visits, for additional details).

Collectively, based on the observations described earlier in Sections 2.3.1 and 2.3.2, the Township had not implemented a program to ensure that post-construction BMPs meet the specified design criteria and are properly operated and maintained over the long term.

One valuable resource that the Township might want to consider for program development is a manual developed by the Center for Watershed Protection, *Managing Stormwater in Your Community: A Guide for Building an Effective Post-Construction Program* (EPA Publication No. 833-R-08-001). The manual and associated tools can be downloaded under the “Stormwater Management Publications” folder at <http://www.cwp.org/documents.html>.¹

2.3.4. Post-construction BMPs for Small Construction Projects. The Township was conditioning small construction projects (greater than 1000 square feet impervious surface) with post-construction BMP requirements. As described by the Township Manager, the Township has attempted to conform to the guidelines set forth by the Lancaster Area Site Planning Roundtable in *Recommended Model Development Principles for East Hempfield, West Hempfield and Manor Townships, and Lancaster County, Pennsylvania*, dated November 2004, which includes low-impact development techniques.

During the inspection, the EPA Inspection Team observed a small pond post-construction BMP on private property at a single-family home within the Township (see Appendix C, Photographs 54 and 55). According to the Township Manager, the property owner was

¹ The website requires a free registration to log in to download documents from the free download area.

required to mitigate for increased runoff from the property due to the improvements. In this case, the property owner decided to implement a pond BMP rather than a sub-surface infiltration BMP due to the associated costs. However, the EPA Inspection Team also observed a completed residential project in the Garden Hill area of the Township where the landowner had elected to install a sub-surface infiltration BMP. The addresses of these properties were not noted by the EPA Inspection Team.

Section 2.4 Pollution Prevention and Good Housekeeping for Municipal Operations and Maintenance

Part A.2 of the Permit requires the Township to implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations. The Township is to include employee training to prevent and reduce stormwater pollution from activities such as vehicle maintenance, fueling, and washing, and stormwater system operation and maintenance.

The following are the summary components of the Pollution Prevention and Good Housekeeping for Municipal Operations and Maintenance MCM (Municipal Operations and Maintenance MCM) from the Protocol:

- Comprehensive Pollution Prevention Program for municipal operations, focusing particularly on vehicle maintenance, fueling and washing, maintenance of stormwater facilities and employee training.
- O&M Program training program for municipal employees.

The Protocol for the Municipal Operations and Maintenance MCM further states that “all municipally-owned facilities [such as detention and retention basins and other BMPs] will be inspected at least annually during the remainder of the permit term (years 3, 4, and 5) to ensure they are meeting design criteria and are properly maintained and functional. By the end of year 2, you [the Township] must have a detailed schedule for inspecting all stormwater facilities [municipally owned and privately owned components of the MS4], and for their operation and maintenance.”

2.4.1. Municipal operations and maintenance site visits. On August 31, 2010, the EPA Inspection Team conducted nine site visits at municipally owned maintenance facilities and municipal activities within and/or associated with the Township. The purpose of the site visits was to assess the Township’s oversight activities for municipal operations and maintenance. Summary observations pertaining to select sites are presented below. All referenced photographs are contained in Appendix C, Photograph Log.

Public Works Maintenance Facility – 3577 Blue Rock Road, Manor Township, PA
Based on a review of the Township Storm Sewer System Map, the site is located outside Manor Township’s MS4 permitted area. However, the Township’s Public Works Maintenance Facility is used for various Public Works activities associated with the Township’s MS4 permitted area, including the following: (1) equipment and materials

storage, (2) basic maintenance of equipment and trucks (e.g., oil changes), (3) basic fabrication of signs, (4) vehicle washing, and (5) vehicle fueling. The main building at the Public Works Maintenance Facility was constructed in 1987; an addition was constructed in 2003. The property on which the facility is located was previously a private farm, and several of the original structures are still on the property. The Township staff refers to the area used for the storage of salt and other materials in the northern portion of the property as the "K.L. Smith Area." The EPA Inspection Team observed the following with regard to pollution prevention and good housekeeping at the facility:

- The salt storage shed in the K.L. Smith area of the facility was not fully covered and was up-gradient of an unnamed tributary to Little Conestoga Creek (see Appendix C, Photograph 25). Specifically, salt had migrated past the extent of the overhead coverage provided by the three-sided storage shed (see Appendix C, Photographs 26 and 27), and salt and anti-skid material residue were observed on the adjacent impervious ground surface (see Appendix C, Photograph 28). Township staff indicated that this uncovered, impervious area is occasionally used for storage of the anti-skid material or other materials. A drainage channel was observed directly adjacent to the east side of the salt storage area (see Appendix C, Photographs 28 and 29), and white residue was observed on the surrounding ground surface and vegetation (see Appendix C, Photograph 30). According to Township staff, the residue on the surrounding vegetation was generated by a brush-type street sweeper that had recently swept the area.
- The drainage valve on the liquid calcium chloride secondary containment structure near the salt storage area was in the "open" position at the time of the site visit (see Appendix C, Photographs 31 and 32). The liquid calcium chloride storage tank is up-gradient of the unnamed tributary to Little Conestoga Creek.
- The fueling area to the north of the main maintenance building was not covered and did not have secondary containment or absorbent materials nearby (see Appendix C, Photograph 33). According to Township staff, a spill kit is not maintained at the Public Works Maintenance Facility; only absorbent material is maintained and used to clean up spills and leaks.
- Mulch and compost were stored on an impervious surface in an uncovered area, and mulch material had migrated beyond the confines of the three-sided containment structure (see Appendix C, Photographs 34 and 35).
- Anti-skid material, stone dust, 2A stone, and 2B stone were stored in the K.L. Smith area of the facility on an impervious surface. The storage area was uncovered and up-gradient of the unnamed tributary to Little Conestoga Creek (see Appendix C, Photographs 35 and 36).
- Stockpiles of unstabilized soil and road milling waste were stored without perimeter control in an area up-gradient of the unnamed tributary to Little Conestoga Creek on the north side of the creek across from the K.L. Smith area of the facility (see Appendix C, Photograph 37 and 38).
- White residue was observed on the impervious ground surface in an outdoor area up-gradient of a storm drain inlet near the northwest corner of the maintenance facility building (see Appendix C, Photograph 39). Township staff were not certain what the residue was from, or what activities are performed in that area.

- The maintenance facility building is equipped with trough drains, which flow to an oil-water separator prior to discharge to the sanitary sewer (see Appendix C, Photograph 40 and 41). According to Township maintenance staff, the oil-water separator is cleaned on an “as-needed” basis and there are no standard operating procedures or specific criteria that maintenance staff use to determine when cleaning is needed. The Township does not maintain a dedicated record of oil-water separator cleaning activities. Furthermore, Township maintenance staff stated that waste materials skimmed from the surface of the oil-water separator are sometimes dumped onto the outdoor stone storage piles in the K.L. Smith area of the facility as a disposal method.

Township Leaf Composting Facility – 2800 Charlestown Road, Manor Township, PA

The Township’s Leaf Composting Facility (see Appendix C, Photograph 42) was constructed in 1991. It consists of a 5-acre parcel of land that the Township leases from Armstrong World Industries, Inc. Based on a review of the Township Storm Sewer System Map, the site is located outside Manor Township’s MS4 permitted area. However, the facility is used to collect and compost leaves and yard waste (weeds, grass clippings, wood) from residential and commercial sources within the Township’s MS4 permitted area and surrounding boroughs. The EPA Inspection Team observed the following at the facility:

- Unstabilized sediment and leaf composting material was observed up-gradient of an outlet pipe in the northeastern corner of the facility (see Appendix C, Photographs 42 and 43). The outlet pipe discharges through an earthen berm and to a vegetated area on the adjacent farmer’s property to the northeast (see Appendix C, Photographs 44). Sediment was observed within the outlet pipe (see Appendix C, Photograph 45). According to a topographic map included in the ArcGIS Explorer (a map-viewing computer program), a tributary to Little Conestoga Creek is about 750 feet northeast of the facility, though the waterbody was not observed during the inspection.
- The outlet pipe along the southern edge of the facility discharges through an earthen berm (see Appendix C, Photograph 46), across a grassy area into a storm drain inlet (see Appendix C, Photograph 47), and underneath the adjacent Charlestown Roadway to a drainage swale that is connected to a detention basin behind the Peace of Mind Storage Facility (see Appendix C, Photograph 48). The detention basin ultimately discharges to Little Conestoga Creek. The detention basin post-construction BMP is not identified on the Township Storm Sewer System Map. As explained by Township staff, the Township was aware of the flow pathway from the leaf-composting facility to the drainage swale and the existence of the down-gradient detention basin BMP, but the BMP was not mapped because it is not within the urbanized area of the Township. Township staff further explained that they are not yet mapping post-construction BMPs. The actual outfall from the Township’s drainage system to Little Conestoga Creek was not observed during the inspection.

Lancaster Township Municipal Building – 1357 Meadowcreek Lane, Lancaster Township, PA

This site is the primary Lancaster Township corporate facility. The Manor Township Public Works Director explained that Manor Township uses a street sweeper and staff from Lancaster Township to sweep the Manor Township roadways, including those within Manor Township's MS4 permitted area. At the completion of the workday, the street sweeper returns to the Lancaster Township Municipal Building, where it is washed. The EPA Inspection Team visited this facility to assess the shared-use street sweeper washing area and observed the following regarding pollution prevention and good housekeeping:

- The shared-use street sweeper washing area was located outside, on an impervious surface (see Appendix C, Photograph 49). Dams, pumping apparatus, or other means of wash water containment were not present at the washing area. A Lancaster Township employee who had previously driven the street sweeper explained that this was the designated area for street sweeper washing, and that the sweeper is filled using a fire hydrant located immediately east near the facility entrance (see Appendix C, Photograph 50). It was further explained that there is no subsurface storm drain system at the facility, and drainage flows southwest. The EPA Inspection Team observed that drainage from the street sweeper washing area would generally commingle with runoff from an adjacent roof leader and the fire hydrant, which would then be directed across the pavement to an overland outfall from the facility (see Appendix C, Photographs 49 through 51). Fine debris accumulation was present at both the shared-use street sweeper washing area and the overland outfall to the southwest (see Appendix C, Photographs 49, 51, 52, and 53). The Little Conestoga River is located approximately 200 feet to the southwest of this outfall. Collected road sweepings contain fine pollutant particles and non-visible pollutants; therefore, the street sweeper washing area was not equipped to properly capture, treat, reuse, or dispose of street sweeper wash water and associated pollutants.

2.4.2. The Township was not conducting vehicle and equipment washing in accordance with the Protocol. The Protocol for the Municipal Operations and Maintenance MCM requires the Permittee to put the following policies and practices into place:

- Create and use designated cleaning areas, preferably indoors where wash wastewater can be recycled or directed to treatment. If indoor washing is not possible, create specific areas to wash cars on gravel, grass, or other permeable surfaces.
- Block off storm drains while washing or use an insert to catch wash water. Make inserts and dams available.
- Pump soapy water from car washes into a sanitary sewer drain. If pumping into a drain is not feasible, pump car wash water onto grass or landscaping to provide filtration.

The EPA Inspection Team observed that the shared-use street sweeper washing area at the Lancaster Township Municipal Building was located outside, on an impervious

surface, where wash water and associated pollutants would flow overland to an outfall located to the southwest (see Section 2.4.1, Lancaster Township Municipal Building site visit, for additional details). During the closing conference session, the Manor Township Manager indicated that when Manor Township conducts sweeping of the Manor Township roadways, in the future it will require that the street sweeper¹ be cleaned at the Manor Township Public Works Maintenance Facility, which has a wash area that is connected to an oil-water separator prior to discharge to the sanitary sewer.

2.4.3. The Township had not conducted basic awareness training for municipal employees regarding stormwater pollution prevention and management since Permit coverage was obtained. The Protocol for the Municipal Operations and Maintenance MCM states that to meet this requirement the permittee must “(1) conduct basic awareness training of your municipal employees regarding stormwater management [stormwater facility operation, maintenance, and inspection; and vehicle maintenance, fueling, and washing], and (2) ensure that your employees understand the new procedures developed in the O&M Program....”

The EPA Inspection Team formally requested “municipal employee training records and syllabus” (see Appendix B, Exhibit 1, Item No. 30), but the Township did not provide the requested records. The Township Manager explained that the Township had not developed a training program and therefore did not maintain training records. Further explanation is provided in the Manor Township response letter (*RE: Administrative Order and Information Request, Docket No. CWA-03-2010-0166DN*), dated June 8, 2010 (see Appendix B, Exhibit 4). The Township response letter, MCM#6 – Pollution Prevention/Good Housekeeping for Municipal Operations, states “training of all employees is currently being developed and will be implemented with all employees having initial training by December 31, 2010.”

¹ Lancaster Township owns and operates the street sweeper for Manor Township.

Appendix A Inspection Schedule

Agenda for MS4 Program Inspection of Manor Township, PA – August 30-31, 2010		
Day	Time	Agenda Item
Monday, August 30, 2010	9:30 am – 10:00 am	Kick-off Meeting & Program Management Overview
	10:00 am – 12:00 pm	Construction Site Runoff Control and Post-Construction Stormwater Management – Office Component
	12:00 pm – 1:00 pm	Lunch Break
	1:00 pm – 3:30 pm	Post-Construction Stormwater Management and Illicit Discharge Detection and Elimination (IDDE) – Office Component
	3:30 pm – 5:00 pm	Pollution Prevention and Good Housekeeping for Municipal Operations and Maintenance – Office Component
Tuesday, August 31, 2010	8:00 am – 11:30 am	IDDE and Pollution Prevention and Good Housekeeping for Municipal Operations and Maintenance – Field Component
	11:30 am – 12:30 pm	Lunch Break
	12:30 pm – 3:00 pm	Construction/Post-Construction Stormwater Management – Field Component
	3:00 pm – 3:30 pm	Internal Discussion ¹
	3:30 pm – 4:30 pm	Closing Conference ²

¹ Internal Discussion - Time for inspectors to arrange notes and prepare information to be discussed with the Municipality at the Closing Conference. Municipality participation is not expected.

² Closing Conference – Open to applicable Municipal representatives.